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ABSTRACT

This document reports the results of a follow-up of a longitudinal, comparative study of Swedish children reared in center and home settings that are especially pertinent to the debate about the long-term effects of care on social development. The study began with a sample of 120 children from 12-18 months of age. Sixty infants were enrolled in high-quality, municipally-operated day care centers, and 60 were cared for at home. Infants were observed with their caregivers in an effort to gain a detailed picture of the social dimensions of life in homes and centers. When the children were 5 years old, 102 of them were studied again. This study focused on the children's interactions with peers and adults in the two care settings. In the next follow-up study, 52 of the original 120 subjects were studied at the age of 10 years. Of the 52 children, 26 were specified as receiving continuous center care and 26 as receiving care in homes. The findings of the earlier phases of the study revealed group differences in the social experiences of the 1- and 5-year-olds in home and center settings. By middle childhood, individual differences in the direction and pace of children's development were overtaking and obscuring the effects of early care arrangements. No evidence was found that the children from center backgrounds demonstrated more negative or aggressive behavior with peers or adults than did children with home care. (RH)

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THE PEER RELATIONS OF CHILDREN REARED IN DAY CARE CENTERS OR HOME SETTINGS: A LONGITUDINAL ANALYSIS

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Poster presented at the Biennial Meeting of the Society for Research on Child Development at Kansas City, MO on April 28, 1989.

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With the surge in reliance on center care for young children, questions have been raised about the long-term impact of early day care experience on children's social and emotional development (Belsky, 1988). Empirical findings regarding the social behavior and skills of children who entered group care in infancy are contradictory, however. Some studies have found preschool children with center backgrounds to be more comfortable interacting with peers and new adults (Clarke-Stewart, 1984) and more adept at managing peer play (Howes, 1987); while others have found evidence that children from centers become more aggressive with peers and less compliant with adults than are their counterparts who have not experienced group care (Schwartz, Strickland & Krolick, 1974; Rubenstein, Howes & Boyle, 1981).

The debate over the long-term consequences of day care experience has stirred researchers to think critically about whether the evidence gathered to date provides sufficient grounds for inferences about whether, and how, early experience of center care influences development. A call has gone out for research on day care that is carried out at "an appropriate level of complexity" (Sroufe, 1988) to test hypotheses about preexisting differences in children, about the quality of center and family care, and about sources of stress in the home environment associated with day care placement that may influence children more intimately and continuously than does the day care setting.

In addition, there is a critical need for longitudinal research on children in different care arrangements to allow observation of the developmental patterns that unfold over time, to sort out transient effects, capture sleeper effects, and detect evidence that children may be following different developmental trajectories. Children's lives are not neatly segmented; they are shaped by myriad experiences in the past and present,

and the difficulties they meet and surmount at one stage of development sometimes pave the way for easier success later.

The Swedish Childrearing Project

Over the ten years from 1970 to 1980, the Swedish Childrearing Project has followed children from Gothenburg, Sweden who spent their daytime hours from infancy to first grade primarily in center or home settings. The project's goal was to document the children's experiences in the two settings and to interpret diverging developmental consequences in the light of the concrete experiences that were observed. Social development has been a focal interest of the project investigators since the project's start and data have been consistently gathered on the children's interactions with peers and adults, and on their values and attitudes toward moral problems, sex roles, and friendship. The results of the most recent follow-up of the Swedish children, completed when they were ten years of age, are especially pertinent to the current debate about the long-term impacts that care in center and home settings may have on social development.

The design of the longitudinal study is summarized in Table 1, and details have been presented in earlier reports on the study (Cochran, 1977; Gunnarsson, 1978; Cochran & Gunnarsson, 1985). The study began with a sample of 120 Swedish children (primarily first-born) from twelve to eighteen months of age, 60 enrolled in high-quality, municipally-operated day care centers, and 60 drawn from the waiting lists kept by the same centers. The infants were observed with their caregivers to gain a detailed picture of the social dimensions of life in homes and centers.

When the children were five years old, the 102 of them who could be contacted were studied again. Three groups were then analyzed: 33 children had attended day care centers continuously, 35 had been in home settings

continuously (their own homes or family day care homes), and 34 had experienced daytime care in both center and home settings. Again, observations of the children's interactions with peers and adults in the two care settings were at the heart of the study.

At the ten-year-old follow-up, only the two "pure" groups were sought, yielding a sample of 52 children, 26 with continuous center care and 26 with care in homes (though many of the latter attended public part-day kindergartens at age six).

Table 1

The Swedish Childrearing Project's Longitudinal Design

1970-71	1974-75	1979-80 **
age 1	age 5	age 10
120 children	102 children	52 children
60 enrolled in centers ------	33 still in centers ------	26 in center group
60 on center waitlists ------	35 still in homes * ------	26 in home group *
	34 shifted settings ------	(not followed)
	18 lost to follow-up	34 total attrition

* Home group includes children in their own homes and those in family day care homes. Many attended part-day public "kindergartens" at age 6.

** In addition, parents and teachers of a partial sample of the children (n=35) were interviewed when the children entered first grade at age 7 in 1976.

The findings of the earlier phases of the study revealed group differences in the social experiences of the one-year-olds and five-year-olds in home and center settings (Cochran, 1977). As toddlers, the center-

based children interacted with adult caregivers only half as much as did home-based children, probably because the caregivers were busy with the other children in their care. However, center children were less often restricted by those adults as they explored the environment, which in the centers was child-oriented and free from the breakables and safety hazards found in private homes.

Four years later, the children's behavior differed by both setting and gender (Gunnarsson, 1978; Cochran & Gunnarsson, 1985; Cochran & Robinson, 1983). Boys in centers spent most of their time in independent play with peers, while center girls were often involved with their caregivers in structured, table-top activities (art projects, puzzles, etc.). The boys in home settings tended to initiate their own activities and enlist the help and interest of their mothers or caregivers, while the home girls followed and helped the adults with tasks around the house. Not surprisingly, peers were more noticable in the interactions of center children while adults were more salient for the home-based children. Power relations were important as well. The girls in home settings were typically in subordinate and compliant roles relative to their caregivers, while the center girls often took the lead, soliciting interest and assistance from nearby adults. The boys in home settings enjoyed both autonomy and the interest of caregivers, while center boys seldom interacted with adults at all.

These group differences were elaborated in a small study of the transition to first grade that was completed with a subsample of 35 children when they were seven years old. Teachers were asked to rate the ease of each child's adjustment to public school, and they most often identified center girls and home boys as experiencing problems. By way of explanation, teachers described the center girls with difficulty as too active, willful,

and dominating, and mentioned that home boys having problems were too shy, insecure, and withdrawn. Most likely, the teachers held fairly traditional standards regarding appropriate behavior for boys vs. girls and commented on the two groups who deviated from those standards: the relatively reserved boys with less peer group experience, and the relatively strong-minded girls accustomed to interacting with center caregivers who focused on their interests.

The present study follows these children into middle childhood, a time when conformity is rewarded and when the children's divergent past experiences have been supplanted by three years in the same public schools. Though the center children had more contact with peers in their preschool years, the home-based ten-year-olds have had a chance to catch up with three years of group experience with classmates. As a result, any differences in social skills that derived from exposure to peers may have been erased.

The center experience also offered the day care children a variety of adult role models who established different types of relationships with them than did adults in home settings. When the children were five, the center caregivers helped the children (especially girls) follow their own interests, allowing them more independence than children usually were given in home settings or later in school classroms. Those experiences might have spurred the center children's development of autonomy and individuality, or could have put them on a collision course with later adult authority figures.

At age ten, we can see how well the center children have adapted to the social setting of the school. Specifically, two questions are addressed:

(1) Will the early peer experience of the center children make them more socially skilled, even in middle childhood?

(2) Will the center children be more accepted by peers and more satisfied with their social relationships?

Methods

Data gathered from the ten year old children and their classmates, teachers, and mothers provide multiple perspectives on these questions. In a private interview each child gave a social network list of up to ten friends and answered open-ended questions about friendship and social experiences. In each child's class, all the children completed a sociometric exercise by choosing classmates as companions for three hypothetical activities. The children's teachers rated seventeen behaviors on a five-point scale as typical or unusual for each child and described the child's ease making friends. Finally, in an interview each mother offered an open-ended description of her child.

The teacher's behavior ratings were taken as measures of positive social behavior and social skill, and were analyzed as individual items. Children's social success was examined through sociometric ratings of popularity with same-sex peers, the number of friends named on the child's network, and the dichotomized responses given by children and teachers to the question "is it easy or hard for (you/child) to make friends?" Finally, the children's open-ended answers to two questions about friendship ("why is it important to have many friends?" and "why is ___ your best friend?") were coded to reflect the level of social reasoning, following Damon's (1977) argument that children move from viewing friendship as materially rewarding, then as reciprocal exchange, and then come to see it as an continuing relationship sustained by mutual trust and understanding (see also Bigelow and LaGaipa, 1974; Berndt, 1981).

The sample consisted of 52 Swedish ten-year-olds from the two "pure" groups in the longitudinal study: 26 who experienced center care from age one to age six (12 boys and 14 girls) and 26 who were in home settings until kindergarten or first grade (16 boys and 10 girls). Though center and home

groups in the original sample were matched on sex, family structure, and SES, the circumstances of the groups diverged over time (see Table 2). Ten years later, the families of center children were less traditional: 38% were single parent households and none of the mothers were full-time homemakers, while none of the home-care group had a single mother and 27% of the mothers were at home full-time (see Cochran & Gunnarsson, 1985 for a discussion of these trends).

Table 2

The Sample at the 10 Year Old Follow-Up

26 from center settings	26 from home settings
12 center boys 14 center girls	16 home boys 10 home girls
less traditional families	more traditional families
38% have single mothers 50% have a sibling 100% have mothers who are employed or studying	0% have single mothers 81% have a sibling 73% have mothers who are employed or studying

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Results

Comparisons of the teachers' ratings of 17 social behaviors and characteristics for center and home groups revealed that the groups were similar on 16 items (see Figure 1) covering behavior with both peers and adults. Neither group was more likely than the other to tease or encourage peers, to play well, help the teacher, or stand up to adults in cases of disagreement. However, the center children more frequently stood up to their peers when they felt something was wrong or unjust ($p < .05$). This difference was sharpest among the girls from center vs. home backgrounds

Figure 1

The Social Behavior of Center vs. Home Children

Teachers rated whether each child engaged in the following behaviors seldom, sometimes, often, or never.

Children were similar in:

Behavior with peers	Behavior with adults
likes active play	curious
comforts peers	concentrates
plays well	persistent worker
befriends newcomers	tidy
sought out for help	helps teacher
encourages peers	stands up to adults
seeks help from peers	resents correction
shows independence	
teases peers	

Children differed in:

Behavior with peers

stands up to peers

(Center > Home, $p<.05$)

($p < .01$ for girls). There was no evidence of aggressiveness or negative behavior on the part of the center group of ten-year-olds, only an indication of assertiveness. When they were confident of their views, they resisted the influence of peers.

Findings related to the children's social success are presented in Figure 2. The similarities in the children's behavior in the school setting were paired with similar ratings of popularity with classmates. The popularity scores ranged from 0 to 320 and were categorized into low, medium, and high. No group differences were found on the categorical or the

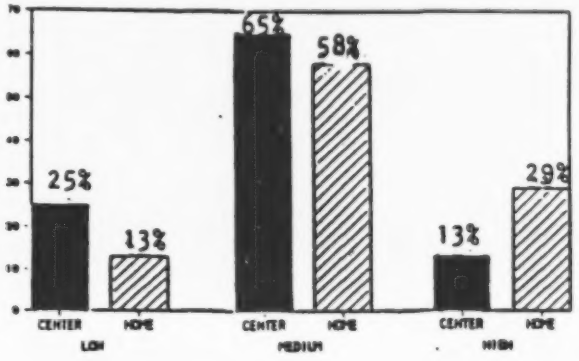
Figure 2

Social Success: Popularity, Friendships and Social Ease

- There was no significant difference between the center and home children in popularity with classmates

Popularity with Classmates

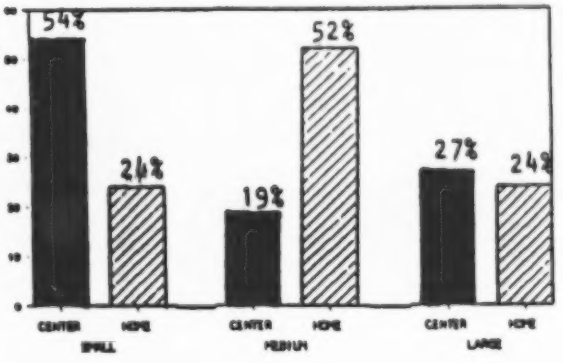
p=n.s.



- Yet center children had smaller networks of friends than home children

Network Size

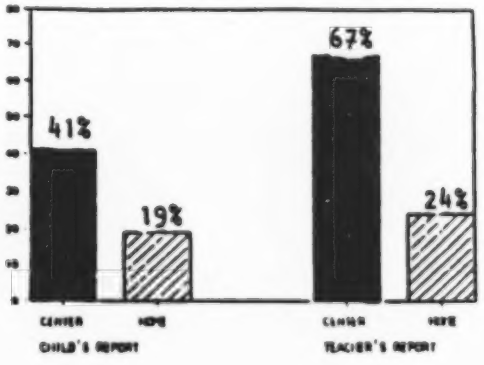
p<.05



- And despite similarities in behavior, they had more trouble making friends

Problems Making Friends

p<.10, p<.05



continuous variable. However, twice as many center children had small networks of friends (1-5 friends), compared with the children in the home group ($p < .05$). And they were more likely than their counterparts in the home group to have trouble making friends. When the children themselves were asked, 41% of the center group said they had problems making friends vs. 19% of the home group ($p < .10$). The teachers were more likely to report difficulties overall and for the center children in particular: 67% of the center children's teachers felt they had trouble making friends, while only 24% of the home children's teachers saw difficulties ($p < .05$). Interestingly, it was the girls from centers who were most likely to say they had problems (50% reported trouble), but from the teacher's perspective, the center boys were the most awkward and excluded socially (83% were seen as having problems).

What might account for these differences between center and home children in their ease making friends? Because by middle childhood patterns of sociability differ so sharply between the sexes, behavioral differences between the groups were examined separately for boys and girls. Given the small subgroup samples and post-hoc character of these explorations, the following qualitative trends are mentioned in order to suggest hypotheses to be tested in other studies.

When the behavior rating items were examined separately for boys and girls from the two childrearing groups, a pattern of nontraditionalism emerged. The following four items were the only ones on which the center and home means were at least a half point apart on a five-point scale (equivalent to $p < .20$). The center boys were somewhat more likely than home boys to comfort peers and to befriend newcomers to the class. In contrast, the girls from centers were more likely than those from home settings to

enjoy active, physical play and were much more likely to stand up to peers. This suggestion of nontraditionalism is corroborated by another study of these Swedish children that used data regarding sex role attitudes and job aspirations. That study revealed that the center girls held more nontraditional sex-role attitudes than any other group (Cross and Cochran, 1983). It may be that the children whose preschool years were spent in centers acted in less sex-stereotyped ways, resisting peer pressures to conform and facing some rejection as a result.

Another explanation of the problems the center children perceived in making friends can be sought in the overall stress in their lives. As noted earlier, 38% of the center group lived at age ten with only one parent (vs. none of the home group), and more (100% vs. 73%) lived in homes without a full-time homemaker. Stresses at home were often coupled with troubling peer experiences: 54% of the center group reported they had been teased by other children, compared with 29% of the home group ($p < .10$). Living in more hard-pressed homes and spending so many years surrounded by peers, the center children may have been more vulnerable to the disappointments and struggles that are part and parcel of children's peer relations.

Yet a third explanation is suggested by indications that the children from center backgrounds (particularly the girls) may have been socially more mature than their counterparts in the home group. In middle chidlhood, children come to adopt more psychological interpretations of social relations, placing more weight on abstract concepts such as closeness, loyalty and trust than on concrete criteria such as shared activities or material gain or harm (Damon, 1977). Children who are using more mature levels of social cognition can be expected to have high expectations of friendship, and perhaps to be disappointed by the relatively superficial friendships that satisfy a less mature child.

After each child picked a best friend from his or her network list, the interviewer asked "what makes ___ your best friend?" The children's open-ended responses ranged from "she has lots of toys," to references to shared activities "we play together every day," to descriptions of the friend "she's nice", "he plays fair and has good ideas," to explanations that focused on reciprocity and trust "we like the same things and think the same," "we can tell each other everything," "we help each other out." A trend in the data showed that center children more commonly gave the highest level of responses; 36% of the center group referred to trust or reciprocity vs. only 16% of the home group ($p < .10$). The findings relating to social maturity are presented in Figure 3.

The children were also asked why it is important to have friends. While there was no difference between boys in the center and home groups, center girls commented on the emotional value of friends ("they keep you from feeling lonely," "they help you out") twice as often as did the girls in the home group ($p < .20$). The home girls tended, instead, to focus on the fact that you need friends to play with. It may be that the tendency of center children to name fewer friends on their network lists (see Figure 2) reflects a different definition of friendship as much as it suggests that they experience social problems.

The third suggestion of greater social maturity in the center group comes from the brief descriptions of the children that were provided by the mothers. The mothers of center children mentioned their dependability, self-reliance, and maturity twice as often as did the mothers of the home group ($p < .05$). For example, "he is bright and can handle a lot, he gets places on time, he thinks before he acts," or "she's a little more grown-up than usual for her age, she seems to think a little deeper than other

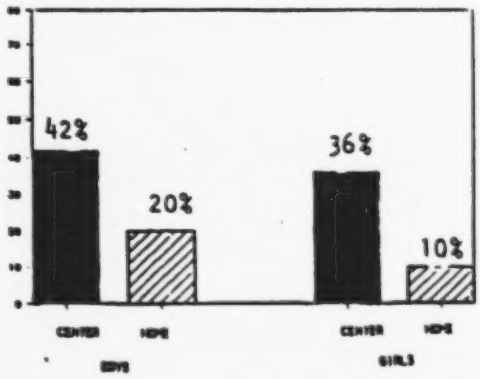
Figure 3

Maturity: Social Reasoning, Self-Reliance

- Center boys and girls talk about intimacy, trust, and mutuality when discussing their best friends

% mentioning best friends are close, or trust each other

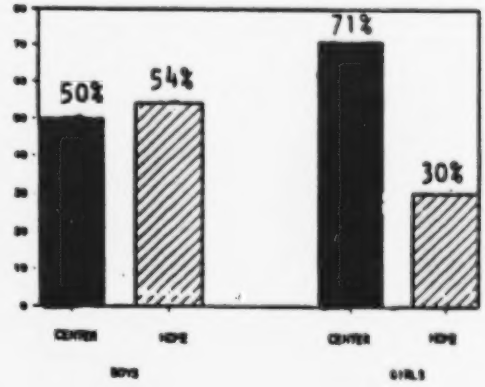
Center children > home children
$p < .10$



- Center girls see friends as valuable for emotional reasons, not only for sharing activities and play

% mentioning that friends help you out, or prevent loneliness

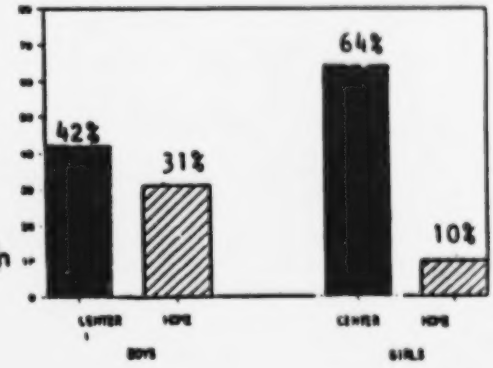
Center girls > home girls
$p < .10$



- The mothers of center children more often mention their dependability and maturity

% whose mothers mentioned their self-reliance or maturity

Center children > home children
$p < .05$



children." As with many other variables, the contrast was sharpest between the center girls (64% were described with such terms) and the home girls (only 10% of their mothers mentioned such characteristics).

No doubt, the center children living in single parent homes, or with two parents employed full-time, were more often called on to assume responsibility for themselves and their siblings. The mothers generally appreciated the children's ability to rise to the occasion: "you can trust him, he is sensible, he can care for his little sisters," or "she is home alone every Thursday, she is controlled and trustworthy." However, one mother commented on the seriousness that colored the demeanor of her ten-year-old: "she isn't really comfortable, I think -- she isn't as happy as children are supposed to be."

Discussion

Following these Swedish childen from contrasting child care backgrounds into middle childhood has revealed some surprising developmental turns. Despite the more extensive experience center children had interacting with peers in groups, after three years in the public schools, their social skills were neither better or worse than those of the home children. Any advantage that their peer experiences may have given them at school entry has diminished over time. Notably, however, there is no evidence in this study that the children from center backgrounds (and all these children began center care during the first year of life) demonstrated more negative or aggressive behavior with peers or adults.

The only slight differences in social behavior between center and home children hinted at greater nontraditionalism among the center children -- the boys were slightly gentler, the girls more assertive, than their counterparts from home backgrounds. These suggestions, if confirmed, may

imply that extensive peer experience can make children (especially girls) more able to resist later peer pressures toward conformity. They may learn how to preserve their individuality even in a group setting.

There were indications, however, of more "social discomfort" among the center children. While they were not less popular, they tended to list fewer friends, more often admit to being teased, and more often report that they had problems making friends. It is possible that the center group had, over the years, been buffeted by more disappointing experiences with peers and so had become more sensitive to social rejection. It is also possible that their individualism cost them some friendships. Whatever the explanation, they appear to have become more conscious of, and more ready to discuss, the negative aspects of relations with peers.

In addition, there is some evidence that the center children, especially the girls, were more advanced in their social development, more sophisticated in their understanding of friendship, and more mature in their dealings with peers and adults. More rapid social development is not inherently good or bad, however, and it may have put some of the center children "out of synch" with their less mature peers. While the mothers of the center group spoke approvingly of their self-reliance and maturity, that developmental progress sometimes was accompanied by a seriousness and malaise that we commonly associate with early adolescence. Perhaps the nonconformism and the social skills and expectations of the mature center ten-year-olds will prove more valuable to them as they and their peers enter the next developmental stage.

This latest follow-up of the Swedish Childrearing Project provides a longitudinal look at the unfolding lives of a small sample of Swedish children born in 1969-70. The study has long been a landmark in day care

research because of its clean prospective design, its observations of children's experiences in real-life centers, and its attention to the interactions occurring in both home and center settings. To date, analyses of the data have sought differences between the home and center groups both overall and separately among the boys and girls. Modest differences have been found at each phase of the study that fit together to give a plausible, balanced picture of the effects of center and home care on children.

By middle childhood, however, individual differences in the direction and pace of the children's development are overtaking and obscuring the effects of early care arrangements. In both groups, some children are doing well and some are having trouble. The next challenge we researchers face is to make sense of the individual paths followed by the children and to try to discern the influences that nudged them in differing directions. And we intend to follow up the sample again (the children are now nearing 20) to track these developmental trajectories into early adulthood. That follow-up will give us a clear picture of the developmental significance of the trends and differences reported here.

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